

points are now deleted. No new matter is deemed to be presented by the above amendment.

The term "apex" refers to the area of the tire in the immediate proximity of the carcass ply turn-up. The apex includes a rubber wedge located in the lower sidewall region above the bead and is bonded to and encased by the carcass plies. The apex also includes the area located between the lower sidewall rubber and the axially outer side of the carcass ply turn-up. The present invention is directed to a problem known as "apex creep". Apex creep is a distortion of the apex compound at the steel cord reinforced carcass ply turn-up endings without an interfacial separation due to the stresses associated with the steel cord and reinforcement in a carcass ply. The present invention is directed to a method to avoid apex creep by having an apex comprised of a diene rubber and a trans 1,4-polybutadiene rubber having at least 65 percent trans 1,4-content.

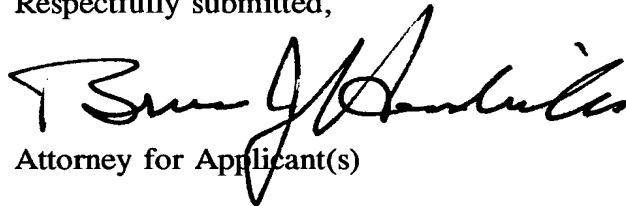
Claims 1-8 have been rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent 4,089,360 in view of U.S. Patent 5,174,838 issued to Sandstrom et al. This rejection is respectfully traversed based upon the above amendment, accompanying declaration of Paul Sandstrom and remarks which follow.

U. S. Patent 4,089,360 teaches a laminant composite sheet which is made up of several separate layers of different compounds. The first layer comprises halogenated butyl rubber. The second layer comprises polybutadiene rubber. The third layer comprises natural rubber. Applications for the laminant composite include an innerliner and a chafer area of the tire. An innerliner is the layer or layers of elastomer or other material that forms the inside surface of a tubeless tire and that contain the inflating fluid within the tire. A chafer is a narrow strip of material placed around the outside of the bead to protect cord plies from the rim, distribute flexing above the rim and to seal the tire. As pointed out by Mr. Sandstrom in his Declaration, this reference does not suggest using the laminant composite sheet in the apex area of the tire. In addition, rubber compounds conventionally used in the innerliner or chafer area are not used in the apex area. This is especially so because the innerliner and chafer must function in a different manner because of the different functions they serve in a tire. This reference also fails to suggest or teach the use of high trans 1,4-polybutadiene rubber exhibiting two different melting temperatures.

U.S. Patent 5,174,838 relates to a tire having a tread of a cap/base construction where the base rubber is comprised of at least one selected diene rubber and a high trans 1,4-polybutadiene rubber. As Paul Sandstrom states in his Declaration, the primary purpose for dividing a tread into an outer cap portion and an underlying base portion is to provide a tread base which will reduce the tire's rolling resistance. The basic properties which must be exhibited by a tread base versus an apex is summarized in a table in paragraph (3) of his Declaration. As can be seen in the Declaration, a tread base must exhibit high rebound values, a moderately low modulus, low viscosity, high tear and low hardness. This should be contrasted with the properties for an apex compound for a tire. An apex compound should exhibit low rebound, a very high modulus, very high viscosity, low tear values and a high hardness. Based upon the above, it is the opinion of Mr. Sandstrom that one skilled in the art would not substitute a compound which has a known utility as an innerliner, chafer or tread base for use in a tire as an apex compound. Therefore, to look with 20/20 hindsight to a reference teaching compounds which have utility in the innerliner, tread base or chafer and suggest their suitability in an apex region of a tire is incorrect and misplaced.

Based upon the foregoing, Applicants respectfully request reconsideration of the rejection in view of the above amendment, accompanying Declaration and the remarks above.

Respectfully submitted,



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